

45. The medical sensor of claim 1, wherein the sensor is capable of reproducing an avatar or video representation of body position and movement of a subject across time.

46-57. (canceled)

58. A medical sensor comprising:

- a. an electronic device having a sensor comprising an accelerometer; and
- b. a wireless communication system electronically connected to the electronic device.

59. The medical sensor of claim 58, said wireless communication system is a bidirectional wireless communication system.

60. The medical sensor of claim 58, wherein said wireless communication system is for sending an output signal from the sensor to an external device.

61. The medical sensor of claim 58, wherein said wireless communication system is for receiving commands from an external controller to the electronic device.

62. The medical sensor of claim 58 that is wearable or implantable.

63. The medical sensor of claim 58, further comprising a wireless power system for powering the electronic device.

64. The medical sensor of claim 58, further comprising a processor to provide a real-time metric.

65. The medical sensor of claim 58, wherein the processor is on-board with the electronic device or is positioned in an external device that is located at a distance from the medical sensor and in wireless communication with the wireless communication system.

66. The medical sensor of claim 58, wherein the processor is part of a portable smart device.

67. The medical sensor of claim 58 that continuously monitors and generates a real-time metric.

68. The medical sensor of claim 67, wherein the real-time metric is a social metric or a clinical metric.

69. The medical sensor of claim 68, wherein the clinical metric is selected from the group consisting of a swallowing parameter, a respiration parameter, an aspiration parameter, a coughing parameter, a sneezing parameter, a temperature, a heart rate, a sleep parameter, pulse oximetry, a snoring parameter, body movement, scratching parameter, bowel movement parameter, and any combination thereof.

70. The medical sensor of claim 69, wherein the social metric is selected from the group consisting of: talking time, number of words, phonatory parameter, linguistic discourse parameter, conversation parameter, sleep quality, eating behavior, physical activity parameter, and any combination thereof.

71. The medical sensor of claim 58, further comprising a processor configured to analyze the output signal.

72. The medical sensor of claim 71, wherein the processor utilizes machine learning to customize the analysis to each individual user of the medical sensor.

73. The medical sensor of claim 72, wherein the machine learning comprises one or more supervised learning algorithms and/or unsupervised learning algorithms customizable to the user.

74. The medical sensor of claim 71, wherein the machine learning improves a sensor performance parameter used for diagnostic sensing or a therapeutic application and/or a personalized user performance parameter.

75. The medical sensor claim 58, wherein said sensor is provided on or proximate to a suprasternal notch of a subject.

76. The medical sensor claim 58, wherein said sensor is provided on or proximate to a mastoid process of a subject.

77. The medical sensor claim 58, wherein said sensor is provided on or proximate to the neck of a subject.

78. The medical sensor claim 58, wherein said sensor is provided on or proximate to the lateral neck of a subject.

79. The medical sensor claim 58, wherein said sensor is provided under the chin of a subject.

80. The medical sensor claim 58, wherein said sensor is provided on or proximate to the jaw line of a subject.

81. The medical sensor claim 58, wherein said sensor is provided on or proximate to the clavicle of a subject.

82. The medical sensor claim 58, wherein said sensor is provided on or proximate to a bony prominence of a subject.

83. The medical sensor claim 58, wherein said sensor is provided behind the ear of a subject.

84. The medical sensor claim 58, wherein the electronic device comprises one or more three-axis high frequency accelerometers.

85. The medical sensor claim 58, wherein the electronic device comprises a mechano-acoustic sensor.

86. The medical sensor claim 58, wherein the electronic device further comprises one or more of an onboard microphone, ECG, pulse oximeter, vibratory motors, flow sensor, and pressure sensor.

87. The medical sensor claim 58, wherein the electronic device is a flexible device.

88. The medical sensor claim 58, wherein the electronic device is a stretchable device.

89. The medical sensor claim 58, wherein the electronic device has a multilayer floating device architecture.

90. The medical sensor claim 58, wherein the electronic device is at least partially supported by an elastomer substrate, superstrate or both.

91. The medical sensor claim 58, wherein the electronic device is at least partially supported by a silicone elastomer providing for strain isolation.

92. The medical sensor claim 58, wherein the electronic device is at least partially encapsulated by a moisture resistant enclosure.

93. The medical sensor claim 58, wherein the electronic device further comprises an air pocket.

94. The medical sensor claim 58, wherein the bidirectional wireless communication system is a Bluetooth communication module.

95. The medical sensor claim 58, wherein the bidirectional wireless communication system is powered by a wireless re-chargeable system.

96. The medical sensor claim 58, wherein the wireless re-chargeable system comprises one or more of a rechargeable battery, an inductive coil, a full wave rectifier, a regulator, a charging IC and PNP transistor.

97. The medical sensor claim 58, further comprising a gyroscope.

98. The medical sensor of claim 97, wherein the gyroscope is a high frequency 3-axis gyroscope.

99. The medical sensor claim 58, further comprising a magnetometer.

100. The medical sensor claim 58, wherein said medical sensor is mounted proximate to a suprasternal notch of a patient.

101-132. (canceled)

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